

To Observe the Effect of Yoga on Mental Health and Flexibility in Premenopausal Females

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ABSTRACT

Background and need of the study: Effects of yoga is studied by many scholars; however, little attention has been given to the phenomenon of premenopausal female participants. So there is need to observe effect of yoga on mental health and flexibility in premenopausal women.

Methodology: Observational study, convenience sampling was done, participants who belong to age group between 40-50 were included in the study. Oral consent was obtained from every participant. Participants were divided into 2 group, group A: who are practising yoga since last 3 years and group B: who were not practicing yoga. Outcome measures 1) V sit and reach test for flexibility and 2) DASS scale to assess depression, stress and anxiety used.

Result: Mean DASS score was (6.45±3.85) and (13.20±5.36) for group A and group B respectively and mean score for flexibility was (20.60±5.36) and (13.35±5.25) for group A and group B respectively. For comparison of outcome measures, Mann-Whitney U test was applied, test result shows that, there is significant difference between groups in flexibility (U=37.5, p=0.0001) and DASS score (U=50.5, p=0.0001).

Conclusion and clinical application: Yoga has shown good control on mental health and flexibility in premenopausal females practicing yoga. So, We can encourage premenopausal female to practise yoga regularly.

Keywords: Premenopausal, Yoga, Depression, Anxiety, Flexibility.

INTRODUCTION

Menopause is an important event in the life of a woman when reproductive capacity ceases. During this transitional phase, woman exhibits severe and multiple symptoms. Frequently re-reported symptoms fall into several categories, including physical disturbances such as hotflashes, psychological complaints such as mood swings, and other changes that may impair personal or social interactions and diminish the overall quality of life.^[1]

The conceptual background of yoga has its origins in ancient Indian philosophy. There are numerous modern schools or types of yoga (i.e., Iyengar, Viniyoga, Sivananda, etc.), each having its own distinct emphasis regarding the relative content of physical postures and exercises (*asanas*), breathing techniques (*pranayama*), deep relaxation, and meditation practices that cultivate awareness and ultimately more profound states of consciousness.

The application of yoga as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psychophysiological benefits of the component practices. The physical exercises (*asanas*) may increase patient's physical flexibility, coordination, and strength, while the breathing practices and meditation may calm and focus the mind to develop greater awareness and diminish anxiety^[2], and thus result in higher quality of life. Other beneficial effects might involve a reduction of distress, blood pressure, and

improvements in resilience, mood, and metabolic regulation [3].

To improve the immediate symptoms of menopause and to manage its long-term consequences, hormonal therapies have been used extensively. However, these therapies have created new concerns about the increased risk of neoplasia of the endometrium and possibly the breast [4,5,6] and hence several researchers have investigated the role of alternative therapies in the management of menopausal symptoms and quality of life

So, aim of this study is to check the effect of yoga on mental health and flexibility in premenopause.

MATERIALS & METHODS

Study design: observational study

Study setting: Ahmedabad

Participants: premenopausal females

Sample size: 40

Duration of study: 1 month

INCLUSION CRITERIA

Gender: Female

Age: 40-55 years

Subjects willing to participate

Subjects having premenopausal symptoms

EXCLUSION CRITERIA

Any severe neurological, psychological, cardiovascular or orthopaedic conditions.

MATERIALS

1. DASS-21 questionnaire

2. 2 measure tapes

3. Proforma

PROCEDURE

Subjects were divided into two groups.

Group A: participants performing yoga regularly

Group B: participants not performing yoga.

Subjects falling into inclusion criteria were asked to perform V sit and reach flexibility test. 3 trials were taken. Best among 3 trials was considered [7].

Then participants were asked to fill DASS-21 questionnaires which is used in order to assess subject's mental health.

The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The stress scale is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable /over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. Higher the score, indicates declining mental health [8].

OUTCOME MEASURES

1. Flexibility: V sit and reach test
2. Mental health: DASS-21 questionnaire

STATISTICAL ANALYSIS

Statistical analysis was done using SPSS version 20. Data was checked for normal distribution using Shapiro-Wilk test. As data was normally not distributed, data analysis was performed using the Mann Whitney U-test for comparing flexibility and mental health among two different groups.

P<0.05 was considered as statistically significant.

RESULT

The data was analyzed in 40 participants in this study.

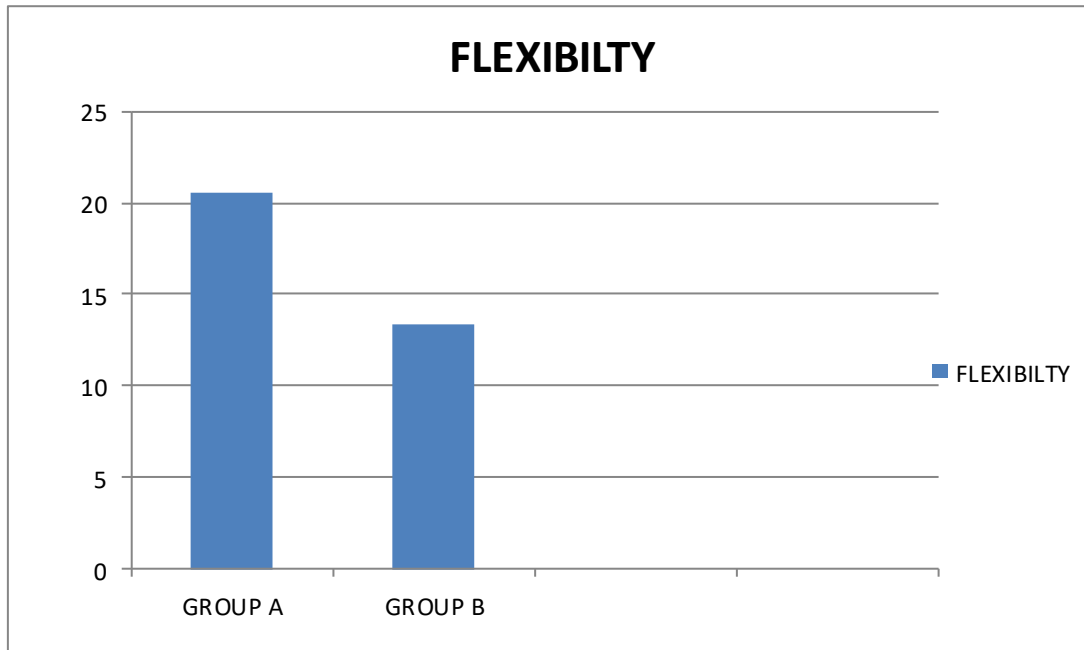
Table 1 shows mean value of DASS score and flexibility of both the groups.

OUTCOME MEASURE	Group A	Group B
FLEXIBILITY	20.60±5.36	13.35±5.25
DASS SCORE	6.45±3.85	13.20±5.36

Table 2 shows there is significant difference in QOL.

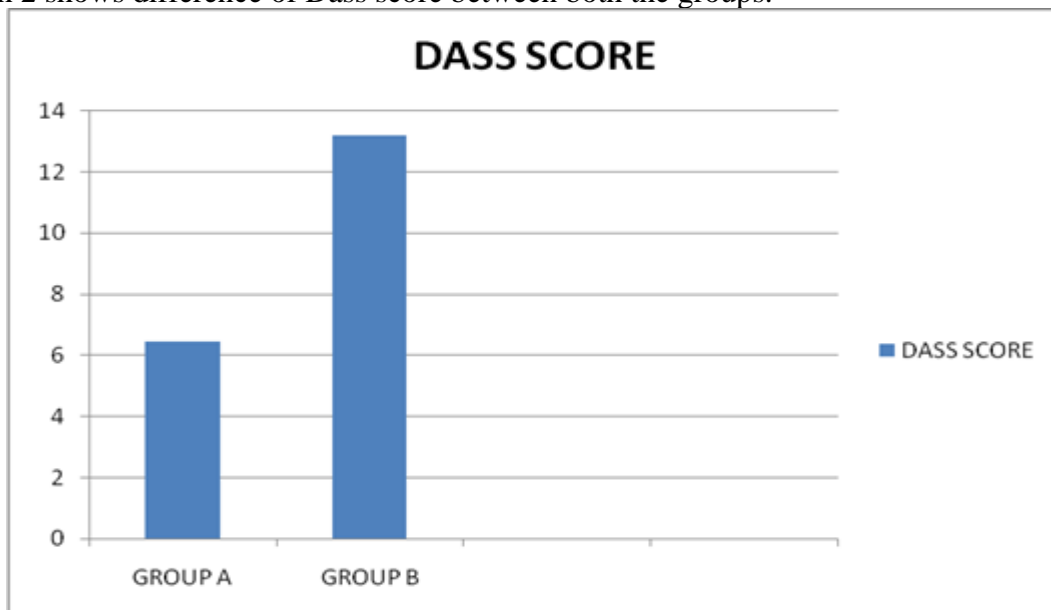
OUTCOME MEASURE	U- value	p- value
FLEXIBILITY	37.5	0.0001
DASS SCORE	50.5	0.0001

Graph 1 shows difference of flexibility between both the groups.



GRAPH 1

Graph 2 shows difference of Dass score between both the groups.



GRAPH 2

DISCUSSION

This study examines comparison of mental health and flexibility between premenopausal women who are performing yoga regularly and premenopausal women who are not performing yoga. And it is observed that there is significant improvement in both mental health and flexibility in both the groups but improvement is more in group A.

Dharitri Swain et al(2021) did a study on Impact of yoga intervention on menopausal symptoms-specific quality of life and changes in hormonal level among menopausal women and concluded that 1 year of SKY practice(which is type of yoga) could be one of the preferred non-hormonal, lifestyle-modifying regimens for improving the overall quality of life in menopausal women ^[9], which support our result.

Rajeshree Tukaram et al (2023) did a study on Study of effects of Sudarshan Kriya on Postmenopausal symptoms among women from central India and concluded that Initiating Sudarshan Kriyas into the lives of postmenopausal women at the right time can assure a less morbid, more comfortable and a better quality of postmenopausal life^[10] which is also in favour of our study.

Vinayak P. Doijad et al (2013) did a study on Effect of Yogic exercises on aerobic capacity (VO₂ max) and concluded that yoga practice can be used to perk up cardiorespiratory fitness^[11], which support our result.

Improvement in aerobic capacity can be explained on the following basis^[12]:

1. Increase in Oxygen Consumption by the muscles, which in turn suggest increase in muscle blood flow. This may be due to a generalized decrease in vascular tone resulting from stimulation of parasympathetic activity during Yogic Training.
2. Conversion of some of the Fast Twitch muscle fibers into Slow Twitch muscle fibers during yogic training. Slow twitch fibers have high aerobic power.
3. Yoga postures (asanas) involve isometric contraction which is known to increase skeletal muscle strength.
4. Greater involvement of active muscle mass from different parts of the body
5. Increase in muscular endurance and delay in onset of fatigue
6. Improvement in lung functions and better utilization of oxygen at cellular level. Improvement in both lung functions as well as cellular machinery explain raised VO₂ max after regular practice of yoga

The intense stretching and muscle conditioning associated with attaining and holding yoga postures increases the skeletal muscle oxidative capacity and decrease glycogen utilization, possibly caused by increased vascularization, in-creased intramuscular oxygen and glycogen stores or by increased numbers of mitochondria and thus improving flexibility of muscle.¹³

Yoga has beneficial effects on perimenopausal-related psychological symptoms. This impact of yoga seems to be due to its effect on the functioning of nervous system leading to increase in alpha rhythm, intrahemispheric coherence and homogeneity in the brain^[14,15] and increase in P 300 phase amplitude^[16] all of which seems to enhance the cognitive processes. Menopausal anxiety can be a very difficult symptom to manage, but yoga therapy showed significant improvement compared to physical exercise. Several mechanisms like altered neurotransmitters,^[17] changed brain blood flow and brain metabolism^[18] and sympathetic activation^[19] seems to be responsible for this improvement brought by yoga practice.

CONCLUSION

This study conclude that participants engaged with yoga shows improvement in mental health and increase flexibility. So, we should encourage premenopausal female to practice yoga regularly.

Limitation:

- Smaller sample size
- Type of yoga was not fixed

Future Recommendation:

- Research on particular set of Yogic exercises like selected asanas or pranayama is required.
- further research with large sample size and for varied age groups having condition like PCOD, is required.

Declaration by Authors

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Conflict of Interest: The authors declare no conflict of interest.

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